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Patent Abstracts of Japan

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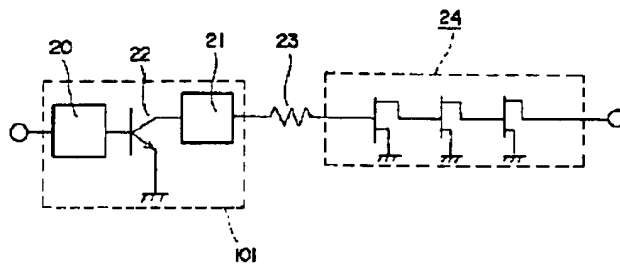
APPLICATION DATE : 19-08-92
 APPLICATION NUMBER : 04220164

APPLICANT : MITSUBISHI ELECTRIC CORP;

INVENTOR : TAKAGI SUNAO;

INT.CL. : H03F 1/32 H03F 3/60

TITLE : LOW DISTORTION SEMICONDUCTOR
 AMPLIFIER



ABSTRACT : PURPOSE: To obtain a low distortion amplifier which is small and highly efficient by setting a gain/passing phase characteristic against the input power of a front amplifier using a bipolar transistor and a rear amplifier using FET to be an inverse characteristic.

CONSTITUTION: In a multi-stage amplifier constituted by plural semiconductor elements, the front amplifier 101 is composed of an input matching circuit 20, an output matching circuit 21 and the bipolar transistor 22, and the rear amplifier is cascade-connected with the rear amplifier 24 using FET through a level adjustment attenuator 23. The bias condition of the front amplifier 101 is set so that it compensates the amplitude distortion and the phase distortion of the rear amplifier 24. Namely, the bipolar transistor 22 can obtain the amplitude/phase characteristic inverse to that of the rear amplifier 24 using FET by bias current. Thus, the amplitude distortion and phase distortion of the whole amplifier can be reduced by setting the attenuation quantity of the attenuator 23 and the bias condition of the front amplifier 101 in accordance with the output power/passing phase characteristic with respect to the input power of the post amplifier 24.

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